REMARKS

Claims 1-30 stand rejected in the outstanding Official Action. Claims 3-8, 10-17, 19-22 and 25-30 have been cancelled without prejudice and claims 1, 23 and 24 amended. Additionally, newly written claims 31-62 are offered for consideration. Accordingly, claims 1, 2, 9, 18, 23, 24 and 31-62 are the only claims remaining in this application.

Attached hereto is a marked-up version of the changes made to the claims by the current amendment. The attached page(s) is captioned "**Version With Markings To Show Changes Made**."

The Examiner's acknowledgment of applicants' claim for foreign priority is very much appreciated. Additionally, the consideration of the prior art previously submitted by applicants with an Information Disclosure Statement is also appreciated. Applicants will forward a certified copy of the priority document in due course.

The drawings stand objected to under Rule 83 as allegedly failing to show features of the invention as specified in the claims. While claims 20-22 and 29 have been cancelled without prejudice, newly written claims 50-52 contain similar subject matter as original claims 20-22. Applicants offer newly proposed Figure 7 illustrating the various features set out in former claims 20-22. In proposed Figure 7, the means for determining the distance and orientation of the reading zone is disclosed as a sub-block comprising the receiving lens, the sensing means and the processing means. The distances between the sensing means and the diaphragm and between the receiving lens and the converging lens are shown as distances D1 and D2.

Applicants have carefully reviewed the claims, the specification and proposed Figure 7 and believe that the structures and organization of those structures indicated in the block diagram are clearly set forth in applicants' specification as filed (page 7, lines 16-34, page 8, lines 23-36 and from page 15, line 35 to page 16, line 19). Upon approval of the proposed new drawing, applicants will amend the specification to include specific references to the structures and structural interrelationships disclosed in the drawing. Also, upon receipt of approval for the drawing and a Notice of Allowance, applicants will submit a former drawing corresponding to the proposed Figure 7. Any requirement for a formal drawing to be submitted prior to a Notice of Allowance is respectfully requested to be suspended.

Claim 1 stands objected to, with the suggestion that "a reading zone" in line 3 be changed to "the reading zone." The above amendment makes this correction, thereby obviating any further claim objection.

Claims 1, 7, 20-24 and 29 stand rejected under 35 USC §112 (second paragraph) as being indefinite. Specifically, the recitation of "it" objected to in claim 1 has been amended to instead recite the "collimated shaped light." Claims 7, 20, 21, 22 and 29 have been cancelled without prejudice, thereby obviating the objection thereto. With respect to claim 23, applicants have amended the claim as suggested by the Examiner to include the subject matter of claim 1 such that the claim reads in independent form. With respect to claim 24, the phrase "it" has been replaced by "the method."

Additionally, where cancelled claims 7, 20, 21, 22 and 29 have corresponding newly written claims, the newly written claims are not believed to have the errors noted

by the Examiner. Accordingly, remaining claims 1, 2, 9, 18, 23, 24 and newly written claims 31-62 are believed to meet all requirements of 35 USC §112 and any further rejection thereunder is respectfully traversed.

Claims 1, 2, 18, 23 and 24 stand rejected under 35 USC §102 as anticipated by Plesko (U.S. Patent 6,233,098). It will be noted that applicants have amended claim 1, and thus claims dependent thereon, to recite that the invention is an aiming device for aiding in the aiming and reading of information (in the manner of a bar code reader). While the Plesko reference clearly relates to a reading device, there is no disclosure in Plesko relating to an aiming device, and in particular, an aiming device which visually indicates the zone being read, therefore providing the operator with immediate visual feedback as to the pointing of the reading device.

While the Examiner suggests that Plesko discloses all of the structures of applicants' claim 1 and that those structures could be interpreted as being "suitable for" aiming and visually indicating a reading zone, Plesko does not go so far as to disclose either the problem of aiming reading devices or the particular solution set out in applicants' claim, i.e. the combination of elements such as the light source, diaphragm, converging lens, etc. which provide the solution to the aiming problem, i.e. an aiming device.

Plesko merely teaches a reading device and does not ever suggest that there is any recognition of the problem solved by the applicants' invention. Accordingly, notwithstanding the Examiner's allegation that Plesko teaches one or more of the structures recited in applicants' independent claim 1, the Examiner does not indicate

where or even that each of the structures and/or the claimed interrelationships is disclosed in the Plesko reference. Of course, under applicable Court of Appeals for the Federal Circuit precedent, not only the structures, but the structural interrelationships must be disclosed in a single reference, i.e. Plesko, in order to support a rejection under 35 USC §102. Because Plesko does not support such a rejection with respect to claim 1, the rejection of claims 1, 2 and 18 is respectfully traversed.

Similarly, claim 23 has been amended to recite an optical apparatus for reading information, but includes an aiming device in accordance with the subject matter of claim 1, and therefore clearly defines over Plesko. Claim 24 is directed toward a method for aiming and visually indicating a reading zone, and because Plesko does not teach such a method, the method steps cannot be anticipated or even obvious in view of Plesko. Accordingly, any further rejection of claims 1, 2, 18, 23 and 24 as being anticipated by Plesko under 35 USC §102 is respectfully traversed.

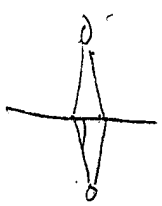
Claims 3-17, 19-22, 25-27 and 30 stand rejected under 35 USC §103 as unpatentable over Plesko in view of Massieu (U.S. Patent 5,397,885). While claims 3-8, 10-17, 19-22 and 25-30 have been cancelled without prejudice, claim 9 has been maintained. Claim 9 is dependent from claim 1 and therefore the above comments relating to Plesko's failure to teach the subject matter of applicants' claim 1 is herein incorporated by reference. Claim 9 adds the requirement that the aiming device includes "at least one optical deflection prism disposed on the optical emission path." Inasmuch as Plesko fails to teach any aiming device at all, it cannot teach the subject matter of claim 9.

Applicants also note that Massieu relates to a reading device and contains no disclosure relating to aiming and/or visually indicating a reading zone. Thus, for the same reasons that Plesko is inapplicable, Massieu is similarly unrelated to applicants' claimed invention.

Because neither cited reference contains any recognition of the aiming problem, nor do they suggest any combination of elements to solve the aiming problem, let alone applicants' specific claimed combination of elements, the Plesko/Massieu combination does not suggest or render obvious the subject matter of applicants' independent claim 9.

Additionally, applicants' newly written claims 31-62 cover structure similar to claims 3-17, 19-22, 25-27 and 30, but in a somewhat more specific fashion. All of these claims relate to an aiming device or a method for aiming and visually indicating a reading zone, neither of which is addressed or accomplished by either of the Plesko or Massieu references. Accordingly, any rejection of newly written claims 31-62 is respectfully traversed.

It is specifically noted that newly written claim 31 specifies at least two illuminating assemblies disposed on opposite sides with respect to the aiming axis of the device. There is clearly no optical system in either Plesko or Massieu which can be used to create at least two illuminating assemblies providing a visible indication on opposite sides of the reading zone, so as to indicate the reading zone to the operator. As a result, the newly written claims dependent on claim 31 clearly cannot be obvious in view of the Plesko/Massieu combination of references.



Claims 28 and 29 stand rejected under 35 USC §103 as unpatentable over Plesko in view of Massieu. Claims 28 and 29 have been cancelled without prejudice, thereby obviating the rejection.

The Examiner's admission that "Plesko does not teach clearly that two first illuminating assemblies and two second illuminating assemblies disposed symmetrically relative to the aiming axis Z such that optical paths of the assemblies from a quadrangular portion on the reading zone. . ." is very much appreciated. These features have been incorporated into the subject matter of applicants' dependent claims and clearly distinguish the newly written claims from the Plesko/Massieu combination of references.

Similarly, the Examiner's admission that "Plesko does not teach clearly that picking up the light beam by a receiving lens from the illuminated portion of the reading zone of the barcode. . ." is also appreciated. Because Plesko and Massieu do not relate to the provision of any aiming feature or illumination of the reading zone feature, they cannot supply the missing structure recited in applicants' dependent claims. Accordingly, any future rejection of newly written claims 31-62 in view of the Plesko/Massieu combination is respectfully traversed.

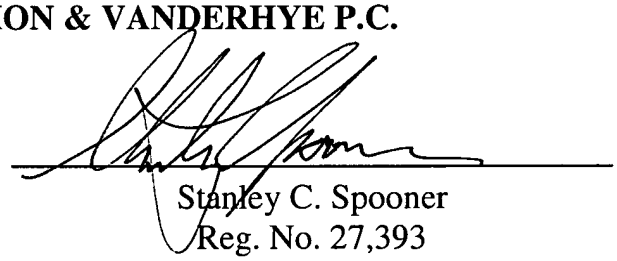
Applicants' newly written claims 31-62 generally correspond with former claims 1-30, but independent claim 31 is limited to two first illuminating assemblies which bracket the reading zone and provide an indication thereof to the operator. This is a feature of applicants' invention which provides extreme utility to an operator using the reading device many times in a poor light condition or in awkward angles and directions. This ease of operation merely locating the code to be read between the two illuminated

areas serves to provide unusual utility for applicants' claimed combination of elements. Consideration and allowance of newly written claims 31-62 is respectfully requested.

Having responded to all objections and rejections set forth in the outstanding Official Action, it is submitted that claims 1, 2, 9, 18, 23, 24 and 31-62 are in condition for allowance and notice to that effect is respectfully solicited. In the event the Examiner is of the opinion that a brief telephone or personal interview will facilitate allowance of one or more of the above claims, he is respectfully requested to contact applicant's undersigned representative.

Respectfully submitted,

NIXON & VANDERHYE P.C.

By: 

Stanley C. Spooner
Reg. No. 27,393

SCS:kmm
1100 North Glebe Road, 8th Floor
Arlington, VA 22201-4714
Telephone: (703) 816-4000
Facsimile: (703) 816-4100

Enclosure: Proposed Fig. 7

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS

Claim 1 *(Amended)* An [optical] aiming device for [aiming along an axis Z and] visually indicating a reading zone, comprising at least one illuminating assembly active on [a] the reading zone portion along an optical emission path, said at least one illuminating assembly comprises:

a light source;

a diaphragm having a preset shape for selecting a portion of the light generated by said source; and

a converging lens placed downstream of the diaphragm for collimating the shaped light coming from the diaphragm and projecting [it] said collimated shaped light onto the reading zone portion.

Claim 23. *(Twice Amended)* An optical apparatus for reading information, [characterized in that it comprises a device as claimed in claim 1] including an aiming device for visually indicating along a Z axis a reading zone, comprising at least one illuminating assembly active on a reading zone portion along an optical emission path, said at least one illuminating assembly comprises:

a light source;

a diaphragm having a preset shape for selecting a portion of the light generated by said source; and

a converging lens placed downstream of the diaphragm for collimating the shaped light coming from the diaphragm and projecting it onto the reading zone portion.

Claim 24 *(Twice Amended)* A method for aiming and visually indicating a reading zone, characterized in that [it] the method comprises the steps of:

generating, by means of a light source, at least one light beam for illuminating a portion of the reading zone along an emission path;

selecting, by means of a shaped diaphragm, a portion of the light beam generated by the light source;

collimating, by means of a converging lens, the portion of the shaped light beam coming from the diaphragm; and

projecting, onto the reading zone portion, the light beam picked up on the converging lens.

-- 31. An aiming device for visually indicating a reading zone, the device comprising at least two first illuminating assemblies disposed on opposite sides with respect to an aiming axis Z and active on respective portions of the reading zone along an optical emission path in order to identify on the reading zone respective patterns, wherein each of said at least two first illuminating assemblies comprises:

- a light source;
- a diaphragm having a preset shape for selecting a portion of the light generated by said source;
- a converging lens placed downstream of the diaphragm for collimating the shaped

light coming from the diaphragm and projecting the collimated light onto the reading zone portion.

32. A device according to Claim 31, wherein the converging lens is positioned at a suitable distance away from the diaphragm such that the shaped light coming from the diaphragm is focused onto the reading zone portion.

33. A device according to Claim 31, wherein said at least two first illuminating assemblies are disposed symmetrically relative to the aiming axis Z such that their respective optical emission paths identify a linear portion on the reading zone.

34. A device according to Claim 31, comprising at least two second illuminating assemblies disposed symmetrically relative to the aiming axis Z and active on respective portions of the reading zone along respective optical emission paths such that these optical emission paths identify, jointly with the optical paths of the first illuminating assemblies, a quadrangular portion on the reading zone.

35. A device according to Claim 31, wherein each light source generates an inclined optical beam with respect to a first and a second reference plane XZ, YZ lying perpendicular to and intersecting each other along the aiming axis Z.

36. A device according to claim 35, comprising at least two first illuminating assemblies disposed symmetrically relative to the aiming axis Z such that their respective optical emission paths identify a linear portion on the reading zone, wherein the optical paths of the first illuminating assemblies are set, relative to the axis Z, at an angle of $+\phi_V/2$ and $-\phi_V/2$, respectively, on the first reference plane XZ, and at an angle of $+\phi_H/2$ and $-\phi_H/2$, respectively, on the second reference plane YZ.

37. A device according to claim 35, comprising at least two second illuminating assemblies disposed symmetrically relative to the aiming axis Z and active on respective portions of the reading zone portion along respective optical emission paths such that these optical emission paths identify, jointly with the optical paths of the first illuminating assemblies, a quadrangular portion of the reading zone, wherein the optical paths of the second illuminating assemblies are set, relative to the axis Z, at an angle of $+\phi_V/2$ and $-\phi_V/2$, respectively, on the first reference plane XZ, and at an angle of $+\phi_H/2$ and $-\phi_H/2$, respectively, on the second reference plane YZ.

38. A device according to claim 37, comprising at least two substantially tubular elements, each having an inclined upper surface for accommodating the light source of one of said at least two illuminating assemblies such that the optical path of the illuminating assembly is inclined at angles of $\pm\phi_V/2$ and $\pm\phi_H/2$ relative to the axis Z.

39. A device according to Claim 31, further comprising at least one optical deflection prism disposed on each optical emission path.

40. A device according to claim 37, wherein each optical emission path of the first and second illuminating assemblies comprises a first path length set, relative to the axis Z, at an angle of $+\phi_V/2$ and $-\phi_V/2$ and $+\phi_H/2$ and $-\phi_H/2$, respectively, on the first and second reference planes XZ and YZ, and a second path length set, relative to the axis Z, at an angle of $+\phi_V/2$ and $-\phi_V/2$ and $+\phi_H/2$ and $-\phi_H/2$, respectively, on the first and second reference planes XZ and YZ, and at an angle of $+\phi_H/2$ and $-\phi_H/2$ and $+\phi_V/2$ and $-\phi_V/2$, respectively, on the second and first reference planes YZ and XZ.

41. A device according to claim 40, further comprising at least one optical deflection prism disposed on each optical emission path, wherein the optical deflection prism is effective to deflect the second path lengths through angles of $\pm\phi_H/2$ and $\pm\phi_v/2$.

42. A device according to claim 37, wherein each optical emission path of the first and second illuminating assemblies comprises a first path length substantially parallel to the aiming axis Z, and a second path length set, relative to the axis Z, at an angle of $+\phi_v/2$ and $-\phi_v/2$, respectively, on the first reference plane XZ, and at an angle of $+\phi_H/2$ and $-\phi_H/2$, respectively, on the second reference plane YZ.

43. A device according to Claim 42, comprising a pair of optical deflection prisms arranged on each optical emission path and effective to deflect the second path lengths through angles of $\pm\phi_H/2$ and $\pm\phi_v/2$.

44. A device according to Claim 42, comprising a single optical deflection prism arranged on each optical emission path downstream of the converging lens and effective to deflect the second path lengths through angles of $\pm\phi_H/2$ and $\pm\phi_v/2$.

45. A device according to Claim 43, wherein the optical prisms of each pair of optical prisms are of a integral construction and are placed downstream of the converging lens on the optical emission path.

46. A device according to claim 43, wherein the optical prism of each pair of optical prisms is formed integrally with the optical prism of the pair of prisms situated on the same side with respect to the second reference plane YZ.

47. A device according to claim 46, wherein the optical prisms of each pair of optical prisms are of integral construction and are placed downstream of the converging lens on the optical emission path, wherein the pairs of optical prisms situated on the opposite side with respect to the second reference plane YZ are mutually associated by a mounting plate.

48. A device according to Claim 31, further comprising at least two tubular elements associated with a holding/supplying plate for the light sources, each tubular element being adapted to isolate the light emitted by the source and hold the diaphragm and converging lens.

49. A device according to Claim 31, wherein each illuminating assembly comprises a V-like light guide disposed, on the emission path, between the light source and the converging lens and effective to generate a pair of optical paths respectively set, relative to the axis Z, at an angle of $\pm\phi_H/2$ on a second reference plane YZ.

50. A device according to Claim 31, further comprising a means for determining a distance of the reading zone from the device.

51. A device according to Claim 31, further comprising a means for determining an orientation of the reading zone with respect to the device.

52. A device according to Claim 51, further comprising a means for determining a distance of the reading zone from the device, wherein the means for determining said distance and orientation of the reading zone comprises:

- a lens for picking up the light diffused from the illuminated portion of the reading zone;

- means for sensing an image of the light diffused from the reading zone and picked up on the lens;

- means for processing the image acquired by the sensing means for calculating the distance and orientation of the reading zone according to the size of the diaphragm, a distance between the sensing means and the diaphragm, a distance between the lens and the converging lens, and a size of the image acquired by the sensing means.

53. An optical apparatus for reading information, comprising an aiming device for visually indicating a reading zone, the device comprising at least two first illuminating assemblies disposed on opposed sides with respect to an aiming axis Z and active on respective portions of the reading zone along respective optical emission paths in order to identify on the reading zone respective patterns, wherein each of said at least two first illuminating assemblies comprises:

- a light source;

- a diaphragm having a preset shape for selecting a portion of the light generated by said source;

- a converging lens placed downstream of the diaphragm for collimating the shaped light coming from the diaphragm and projecting the collimated light onto the reading zone portion.

54. A method for aiming and visually indicating a reading zone, characterized in that the method comprises the steps of:

- generating, by means of at least two light sources, at least two light beams for illuminating respective portions of the reading zone along respective emission paths;

- selecting, by means of shaped diaphragms having a predetermined size, a portion of each of the light beams generated by the light sources;

- collimating, by means of converging lenses, the portions of the shaped light beams coming from the diaphragms;

- projecting, onto the reading zone portion, the light beams picked up on the converging lenses in order to identify on the respective portions of the reading zone respective patterns.

55. A method according to Claim 54, comprising the step of determining a distance of the reading zone.

56. A method according to Claim 54, comprising the step of determining an orientation of the reading zone.

57. A method according to Claim 55, further comprising the step of determining a distance of the reading zone, wherein the steps of determining the reading zone distance and orientation comprise the following steps:

- picking up, on a receiving lens, the light beam diffused from the illuminated portion of the reading zone;

- acquiring, on a sensing means, an image of the light diffused from the reading zone and picked up on the receiving lens;

- processing the acquired image to calculate the distance and orientation of the reading zone according to the size of the diaphragm, a distance between the sensing means and the diaphragm, a distance between the lens and the converging lens, and a size of the image picked up on the sensing means.

58. A device according to claim 44, wherein the optical prism of each pair of optical prisms is formed integrally with the optical prism of the pair of prisms situated on the same side with respect to the second reference plane YZ.

59. An aiming device for visually indicating a reading zone, the device comprising at least two first illuminating assemblies disposed opposed sides with respect to an aiming axis Z and active on opposed portions of the reading zone along respective optical emission paths in order to identify on the reading zone at least two discrete patterns, wherein each of said at least two first illuminating assemblies comprises:

- a light source;
- a diaphragm having a preset shape for selecting a portion of the light generated by said source;
- a converging lens placed downstream of the diaphragm for collimating the shaped light coming from the diaphragm and projecting the collimated light onto the reading zone portion.

60. An optical apparatus for reading information, comprising an aiming device for visually indicating a reading zone, the device comprising at least two first illuminating assemblies disposed on opposed sides with respect to an aiming axis Z and active on opposed portions of the reading zone along respective optical emission paths in order to identify on the reading zone at least two discrete patterns, wherein each of said at least two first illuminating assemblies comprises:

- a light source;
- a diaphragm having a preset shape for selecting a portion of the light generated by

said source;

- a converging lens placed downstream of the diaphragm for collimating the shaped light coming from the diaphragm and projecting the collimated light onto the reading zone portion.

61. A method for aiming and visually indicating a reading zone, characterized in that the method comprises the steps of:

- generating, by means of at least two light sources, at least two light beams for illuminating opposed portions of the reading zone along at least two emission paths;
- selecting, by means of shaped diaphragms having a predetermined size, a portion of each of the light beams generated by the light sources;
- collimating, by means of converging lenses, the portions of the shaped light beams coming from the diaphragms;
- projecting, onto the reading zone portion, the light beams picked up on the converging lenses in order to identify at the opposed portions of the reading zone at least two discrete patterns.

62. An aiming device for visually indicating a reading zone, the device comprising at least one illuminating assembly active on a reading zone portion along an optical emission path, said at least one illuminating assembly comprises:

- a light source;
- a diaphragm having a preset shape for selecting a portion of the light generated by said source;
- a converging lens placed downstream of the diaphragm for collimating the shaped

light coming from the diaphragm and projecting the collimated light onto the reading zone portion, wherein the converging lens is positioned at a suitable distance away from the diaphragm such that the image of the shaped light coming from the diaphragm is focused onto the reading zone portion. --